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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,300	04/19/2004	Ji-hun Koo	Q80724	9833
23373	7590	07/08/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			BUI, BRYAN	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/826,300

Applicant(s)

KOO ET AL.

Examiner

Bryan Bui

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-13 and 17-20 is/are allowed.
- 6) ☒ Claim(s) 1, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Case, Jr. et al (US Patent No. 5,825,350). Hereinafter Case.

With respect to claims 1 and 14, Case discloses the features of the claims invention in the apparatus and method of estimating and compensating for a bias in the sensor signal comprising: a low pass filter operable to filter the sensor signal and output a low frequency sensor signal (figure 18, LPF 1802); an operation determination unit (comparator 1808 in figure 18) operable to determine whether the sensor is not in operation; a bias estimating unit (figure 18, items 1806, 1808, 1810) operable to estimate bias included in the low frequency sensor signal output from LPF according to the output of the determination unit; a subtractor (figure 18, item 1804) to subtract the estimated bias from the low frequency sensor signal according to the output of the operation determination unit.

With respect to claim 15, Case further teaches differentiating the low frequency sensor (figure 18, item 1806); and determining that the sensor is not operating when an

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amplitude of the differentiated, low frequency sensor signal is a first value or less, and an amplitude of the low frequency sensor signal is a second value or less (figure 18, corresponding in the operation of items 1802, 1806, 1808, 1810)

3. Claims 1 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's prior art submitted in figure 1, and the background of the invention.

hereinafter prior art.

With respect to claims 1 and 14, the prior art discloses the features of the claims invention in the apparatus and method of estimating and compensating for a bias in the sensor signal comprising: a low pass filter operable to filter the sensor signal and output a low frequency sensor signal (figure 1, LPF 10); an operation determination unit (comparator 12 in figure 1) operable to determine whether the sensor is not in operation; a bias estimating unit (figure 1, items 11, 12, 13) operable to estimate bias included in the low frequency sensor signal output from LPF according to the output of the determination unit; a subtractor (figure 1, item 14) to subtract the estimated bias from the low frequency sensor signal according to the output of the operation determination unit.

With respect to claim 15, Prior art teaches differentiating the low frequency sensor (figure 1, item 11); and determining that the sensor is not operating when an amplitude of the differentiated, low frequency sensor signal is a first value or less, and an amplitude of the low frequency sensor signal is a second value or less (figure 1, corresponding in the operation of items 10, 11, 12, 13).

***Allowable Subject Matter***

4. Claims 2-5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 6-13, 17-20, are indicates allowable over the prior art of record because the prior art doe not teach or suggest the claimed combination as recited, particularly in combination: a tolerance level estimating unit operable to detect a level of the low frequency sensor signal that is higher than the estimated bias, according to the output of the operation determination unit, and estimate a tolerance level based on the detected level and the estimated bias and a signal estimating unit operable to output the low frequency signal exceeds the estimated tolerance level.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 571-272-2271. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BB

6/30/2005

**BRYAN BUI**  
**PRIMARY EXAMINER**

